
XVII. *An Account of a new Genus of New Holland Plants named Brunonia.* By James Edward Smith, M.D. F.R.S. P.L.S.

Read February 6, 1810.

FOR the knowledge of the genus of plants of which I now propose to offer an account to the Linnean Society, I am obliged to Mr. Robert Brown, Librarian to the Society, who discovered it in the course of his botanical researches in New Holland. A very interesting part of his rich harvest in that country occupies a large portion of the present volume of our Transactions. With such a proof of his genius and abilities before us, any testimony of mine to the same purpose would be altogether superfluous; but I am anxious to seize an opportunity, which, at my earnest solicitation, Mr. Brown has afforded me, of gratifying my own personal friendship, while I do public justice to his merits, in dedicating this new and very distinct genus to his honour. In order to accomplish this, as there is already a *Brownea*, in memory of the natural historian of Jamaica, I am obliged to adopt a contrivance, unexceptionable in itself, and authorized by precedent, of preserving as much resemblance to his name as possible, while I avoid all ambiguity with the *Brownea* previously established, in calling my genus *Brunonia*. Of this, consisting of two species, I shall now proceed to offer a systematic description, subjoining some remarks on its botanical affinity, which is enveloped in no small degree of obscurity.

BRUNONIA.

CLASS. ET ORD. *Pentandria Monogynia.*Sect. 1. *Flores monopetali, inferi, monospermi.*NAT. ORD. *Aggregatæ* Linn. *Dipsacæ* Juss. ?

ESSENT. CHAR. *Corolla* infundibuliformis, quinquefida, irregularis. *Antheræ* connatæ. *Stigma* indusio bivalvi. *Semen* unicum, calycè interiori, demum plumoso, tectum.

NAT. CHAR. *Calyx*.—*Perianthium commune* multiflorum, polyphyllum: *foliis* flore brevioribus, subæqualibus, patentibus, persistentibus; interioribus minoribus, solitariis, sub singulo flore.

Perianthium proprium duplex, utrumque inferum:

exterius tetraphyllum, brevius, foliis membranaceis, subæqualibus, erectis, concavis, obtusis:

interius turbinatum, parùm longius, quinquedentatum, persistens, dentibus plumosis.

COROLLA *universalis* æqualis.

Propria monopetala, infundibuliformis, calyce longior; limbo quinquepartito, patente, laciniis subæqualibus, duabus superioribus profundius divisis; tubo quinquepartibili.

STAMINA. *Filamenta* quinque, receptaculo inserta, capillaria, debilia. *Antheræ* lineares, in cylindrum connatæ, longitudine tubi.

PISTILLUM. *Germen* superum, subrotundum. *Stylus* clavatus, staminibus duplè ferè longior. *Stigma* incrassatum, torulosum, obtusum, valvulis duabus æqualibus, verticalibus, orbiculatis, concavis, membranaceis, conniventibus, inclusum.

PERICARPIUM nullum, nisi perianthium interius, cum corollæ basi membranacæ, persistens, auctum atque induratum, dentibus

dentibus quinque plumosis, elongatis, patentibus, pappum mentientibus, coronatum.

SEMEN solitarium, tectum, ovatum, exalbuminosum. *Embryo*, ex inventoris auctoritate, erectus.

1. BRUNONIA *australis.*

TAB. XXVIII.

B. foliis pilosis: pilis patentibus, laciniis calycinis undique plumosis.

In campis arenosis maritimis Australasiæ.

Abundant in Van Diemen's Land, and observed also on the opposite shore of New Holland at Port Phillip, flowering in January 1804. *Mr. Brown.*

Herba acaulis, undique pilosa, annua?

Radix simplex, fusiformis, gracilis.

Folia radicalia, numerosa, bi-vel tri-uncialia, erectiuscula, spatulata, obtusiuscula, integerrima, uninervia, parùm venosa, pallidè viridia; basi attenuata; undique pilosa; pilis patentibus, rigidulis, apice confertis, mucronulum simulantibus.

Scapus solitarius, pedalis vel altior, simplicissimus, nudus, teres, pilis supernè minùs patentibus; intùs spongiosus.

Capitulum terminale, solitarium, magnitudine Scabiosæ succisæ, undique sericeo-pilosum.

Flores cærulei, ferè Jasionis montanæ.

2. BRUNONIA *sericea.*

TAB. XXIX.

B. foliis sericeis: pilis adpressis, laciniis calycinis apice denu-
datis coloratis.

In arenosis maritimis Novæ Hollandiæ.

At Pine Port, just within the tropic, on the east coast of New Holland, flowering in August 1802. *Mr. Brown.*

Forma omninò præcedentis, at *folia* numerosiora, angustiora, undique sericea, pilis arctè adpressis. *Capitulum* priori simillimum, sed apices calycis interioris denudati, subexserti, colorati, obtusiusculi.

The genus under consideration is, as Mr. Brown remarks, exceedingly interesting, on account of its apparent relationship to several very different natural orders, and the great difficulty of referring it to any one in particular. Its discoverer is inclined to place it between the *Campanulaceæ* and *Corymbifereæ* of Jussieu, though it overturns the artificial characters of both orders, having a superior germen. But it accords with the latter in the very important circumstance of the upright embryo, and precisely in the number, form, texture, and connexion of its *stamina* and *antheræ*, which are altogether those of a true syngenesious flower. Its *stigma* on the other hand bears an exact resemblance to some of the *Campanulaceæ*, as *Goodenia*, *Scævola*, *Velleia*, &c. and is unlike every thing else in nature. For this reason, and for the sake of its *germen superum*, which is the case with some of these, as *Velleia*, Mr. Brown was disposed to place it at the end of this order, bordering upon *Syngenesiæ*.

On considering the above remarks, assisted by dried specimens, I have presumed to suggest that *Brunonia* may perhaps belong to *Dipsaceæ*, and Mr. Brown in reply informs me that this idea had not entirely escaped him. I was led to it by the general aspect of the plants, and by a suspicion of Jussieu*, that the

* See Adanson and Gærtner on this subject.

exterior perianthium in *Dipsacæ* may perhaps most properly be deemed inferior, only embracing the seed closely, being enlarged and hardened in the fruit; witness *Scabiosa*. Now this is precisely the case with what I have above described as the *inner* perianthium of *Brunonia*, the outer one, of four leaves, not being analogous to any thing in *Scabiosa*, except the solitary scales or leaves in many species accompanying each flower. Can it be possible, therefore, that what I have taken for the *inner* is really the *only* perianthium in *Brunonia*, and exactly analogous to the outer one in *Scabiosa*? They both alike, in an indurated state, envelop and crown the ripe seed.

If habit were to be much insisted on, nothing can be stronger in my favour; for, besides the inflorescence, when I lay the dried specimens of the two *Brunoniæ* by the side of *Scabiosa cretica* and *graminifolia*, nothing can be more striking than the exact agreement of the foliage of *B. australis* with the former, both in shape and colour; while the same circumstances, including the silky pubescence, no less agree in *B. sericea* and *S. graminifolia*. I am, however, aware how treacherous these analogies are in the productions, whether vegetable or animal, of New Holland, but their technical characters are no less so. If it would lead us widely astray to make the wonderful *Ornithorinchus* a bird, on account of its beak, it would be equally dangerous, were any botanist to refer *Brunonia* to the *Campanulacæ*, for the sake of its stigma alone. "Upon the whole," as Mr. Brown very candidly remarks, "instead of our being able to determine the order to which this genus belongs, *Brunonia* seems to afford no small proof of the limits of these groups being purely artificial; for does it not break down the barrier between *Syngenesiæ* and *Campanulacæ*, *Dipsacæ* and *Globulariæ*?" To this I most heartily subscribe; but if it leads to the overthrow of artificial definitions,

too

too confidently perhaps asserted for natural, may it not on the other hand guide us to some natural combinations, in helping us, for instance, to understand *Corymbium*? These anomalous productions, while they perplex the system-builder, enlighten the true observer. Who knows but the difference between an upright and a reversed embryo, which, according to our present knowledge, I allow to be almost insuperable, and by which rule *Brunonia* must be referred to the *Corymbiferae*, and not to the *Dipsuceae*, may prove, like every other known character, liable to occasional exception?

J. E. SMITH.

EXPLANATION OF THE PLATES.

TAB. XXVIII. *BRUNONIA australis*.

Fig. 1. Planta magnitudine naturali. 2. Flos completus magn. auctus. 3. Calyx exterior cum bracteâ respondente capituli. 4. Corolla cum dimidio calycis interioris. 5. Pistillum et Stamina, quorum tubus antherarum apertus. 6. Stigma dimidio indusii abscisso. Apex styli cum indusio stigmatis.

TAB. XXIX. *BRUNONIA sericea*.

Fig. 1. Planta magnitudine naturali. 2. Capituli lobus magn. auctus. 3. Flos completus. 4. Calyx exterior cum bracteâ respondente capituli. 5. Stamina et Pistillum, cujus Stigma longitudine indusii. 6. Stamen unicum. 7. Pistillum, cujus stigma semiexsertum. 8. Apex Styli cum indusio stigmatibus adhuc incluso. 9. Stigma denudatum. 10. Calyx interior fructifer. 11. Tubus ejusdem apertus, ostendens semen filamentis infra cohærentibus cinctum. 12. Semen filamentis persistentibus cinctum. 13. Apex incrassatus operculiformis tunice exterioris seminis. 14. Semen tunica exteriori orbatum. 15. Embryo.

XVIII. *A De-*